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# THE ROLE OF ACHIEVEMENT MOTIVATION IN JOB DESIGN

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> Technical Report No. 10 December 1976

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## Abstract

This study examines the effects of job scope and need for achievement on managerial commitment and performance. It was hypothesized that high scope jobs would be associated with increased organizational commitment irrespective of n Achievement. Moreover, it was hypothesized that high scope jobs would be related to increased performance only for high n Ach subjects and not for low n Ach subjects. Results supported both hypotheses. The findings are discussed as they relate to other investigations and it is suggested that the n Ach construct offers considerable utility in future job scope research.

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# The Role of Achievement Motivation in Job Design

Research on job design and employee motivation has dominated much of the literature on organizational behavior in recent years. Results from a variety of studies suggest that "enriched" jobs (i.e., jobs containing more variety, autonomy, feedback, and so forth) are often associated with increased satisfaction, reduced turnover and absenteeism, and in some-but certainly not all--cases, increased performance (Brief and Aldag, 1975; Hackman and Lawler, 1971; Hackman and Oldham, 1975, 1976; Porter and Steers, 1973; Pritchard and Peters, 1974; Staw, 1976; Stone, 1976; Umstot, Bell and Mitchell, 1976; Wanous, 1974). The general magnitude of these findings has not been overly high, however.

In an effort to enhance the 156 scope-outcome relationships, several recent investigations have examined the potential moderating effects of "higher-order need strengths" (subsequently called growth need strengths"). Higher-order need strengths are believed to include the needs for personal growth, autonomy, esteem, feedback on performance, participation, and accomplishment (Alderfer, 1969). These needs have been treated jointly in the literature as one construct for purposes of analysis.

When the effects of higher-order need strengths on the job scope-outcome relationships are examined, the results are not encouraging. For example, consider the effects of job scope on job satisfaction. Several studies have found a statisfaction relationship between these two variables before need strength was considered (Umstot et al., 1976; Oldham, Hackman, and Pearce, 1976; Stone, 1976; Brief and Aldag, 1975; Hackman and Lawler, 1971; Steers, 1976).

However, when the effects of higher order need strength on this relationship are examined, results are inconclusive. Using subgroup analyses for high and low need strength and testing for significant differences between the correlations for the two need strength groups, three of four tests failed to find significant differences (Brief and Aldag, 1975; Hackman and Lawler, 1971; Hackman and Oldham, 1976). Only Wanous (1974) found that need strength represented an important influence on the job scope-job satisfaction relationship.

Next, consider the influence of higher-order need strengths on the job scope-performance relationship. Before need strength variations are considered, little direct job scope-performance relationship is found (Hackman and Lawler, 1971; Umstot et al., 1976). However, when the influence of need strength is considered, the job scope-performance association is enhanced only slightly, although in the predicted direction (Hackman and Lawler, 1971; Hackman and Oldham, 1976; Oldham et al., 1976; Wanous, 1974). However, no significant differences emerged between high and low need strength groups.

This lack of a strong or consistent influence of higher-order need strengths on job scope-outcome relationships can be accounted for in a variety of ways. For example, it may be that the relationship between the major study variables is more complex than was first thought and that more comprehensive models are needed which include (but do not rely exclusively on) the concept of higher-order need strength. This explanation is suggested by both Brief and Aldag (1975) and Oldham et al. (1976).

An alternative explanation may lie in the concept of higher-order need strength itself. Specifically, it appears that the construct validity of the

higher-order need strength concept remains to be established (Lawler and Suttle, 1972; Wahba and Bridwell, 1976). For instance, many of the needs that are believed to comprise the concept (including achievement, self-esteem, and autonomy) have not been found to be strongly related in the past (cf. Alderfer, 1969; Miner and Dachler, 1973; Steers and Braunstein, 1976). In addition, as shown by Alderfer (1969; Schneider and Alderfer, 1973), little evidence of predictive or discriminant validity appears to exist, although some evidence of concurrent validity can be found. Finally, no studies have been found which report stability coefficients for the instruments designed to measure the concept. Hence, until more detailed and critical appraisals are made concerning the notion of higher-order need strength, its value to the study of job scope and motivation remains in doubt.

In the search for alternative potential influences on job scope-outcome relationships, the achievement motivation model advanced by Murray (1938; McClelland, Atkinson, Clark, and Lowell, 1953) appears to warrant consideration. While it is not suggested here that this model is superior to the above model, it does seem to offer a conceptual richness worthy of empirical examination. Hence, it is the purpose of this paper to analyze the role of achievement motivation in helping to explain the influence of job scope on attitudes and behavior.

Considerable research has been carried out concerning the role of employee need for achievement in behavior and attitudes under various conditions (Birney, 1968; Cummin, 1967; French, 1958; Heckhausen, 1967; Steers, 1975a, 1976b).

Need for achievement (n Ach) represents a experienced need to accomplish something important or to compete with a standard of excellence (McClelland

et al., 1953). High n Ach subjects typically seek out challenging jobs, prefer to assume personal responsibility for problem solution, and prefer situations where they receive clear feedback on task performance (Atkinson, 1958). Low n Ach subjects, on the other hand, generally prefer situations where risk levels are low and where responsibility is shared by others. Such findings have emerged in a variety of studies. Unfortunately, however, with few exceptions (Andrews, 1967; Cummin, 1967; Steers, 1975b), most research on the n Ach construct has been carried out among non-work samples. Thus, our knowledge of the role of achievement motivation in work settings is somewhat limited.

There are several reasons supporting the use of need for achievement in research on job design. First, the theory of achievement motivation specifically focuses on the nature of the task as the primary stimulus in motivated behavior for high n Ach subjects (McClelland et al., 1953). Moreover, considerable research (primarily laboratory-based) exists in support of the predictive validity of the theory under varying task conditions (cf. Birney, 1968; Heckausen, 1967). Finally, the n Ach construct is more specific than is the notion of higher-order need strengths. In fact, achievement often represents one component (out of many) in the higher-order need strength model. Hence, if one component of such a model was shown to represent a significant variable in task-motivated behavior, the utility of the broader (i.e., less specific) concept would be questionable unless it added something beyond the n Ach component. It is thus hoped that the present study will contribute toward an understanding of the usefulness of the n Ach construct in future research on job design.

In the present study, the role of n Achievement was considered as it influenced the relation between job scope and the two outcomes of job performance and organizational commitment. Based on previous research concerning the effects of n Ach on performance (Atkinson, 1958; McClelland et al., 1953; Steers, 1975b), it was hypothesized that increases in job scope would be related to job performance only for high need achievers; no such relation would exist for low need achievers. The n Ach model suggests that high need achievers are stimulated by tasks that are challenging in nature and that provide ample feedback on task performance. Hence, when they are placed in jobs which are more "enriched" (i.e., have a higher job scope), we would expect them to respond in the form of superior job performance. Such a response is predicted by theory and supported by earlier laboratory studies (Birney, 1968). Low need achievers, who are not stimulated by enriched jobs, would not be expected to change their performance as a function of job scope.

A somewhat different hypothesis is suggested concerning the relation of n Ach, job scope, and organizational commitment. Commitment may be defined as the relative strength of an individual's identification with and involvement in his employing organization (Porter, Steers, Mowday, and Boulian, 1974). It can be characterized by three factors: (1) a strong belief in and acceptance of the goals and values of the organization; (2) a willingness to exert considerable effort on behalf of the organization; and (3) a strong desire to maintain membership in the organization. While the effects of n Ach and job scope on other affective responses (job satisfaction, job involvement) have been examined (Steers, 1976; Stinson and Johnson, 1976; Stone, Mowday, and Porter, 1976), the effects on commitment remain largely unexplored. In view of the

strong relationship between commitment and subsequent turnover and absenteeism (Porter et al., 1974; Steers, in press), such an examination appears fruitful.

On an exploratory level, it was hypothesized that job scope would be related to commitment irrespective of need strength. The rationale for this hypothesis follows largely from earlier work on job scope and job attitudes. It was noted earlier that previous research on job scope and satisfaction and involvement generally found clear, consistent relationships (c.f., Hackman and Lawler, 1971). These findings indicate that affective responses to jobs may largely result almostirrespective of need strength variations. Such a finding occured for job satisfaction and job involvement. Since earlier research has shown job scope to be an important influence on commitment also (Steers, in press), it was posited that n Ach would not affect such a relationship unduly.

#### METHOD

#### Sample and Research Site

This study was carried out among a sample of 115 managers in various departments of a major manufacturing firm. The average age of the subjects was approximately 35 years of age, while the average company tenure was approximately 8 years. The majority of the sample had college degrees and some had advance degrees.

### Research Instruments

Job characteristics. Perceived job characteristics were measured using the scales developed by Hackman and Lawler (1971). The four core dimensions measured were: autonomy, variety, feedback, and task identity. In addition, optional interaction and required interaction were measured. The psycho-

metric properties of this instrument are reported in Hackman and Lawler (1971). Scale intercorrelations for the present study ranged from -.03 to .38, with a median of .20. Means on the various job characteristic scales ranged from 3.72 to 5.94, with standard deviations ranging from 1.03 to 1.92.

Need for achievement. Need for achievement was measured using the Manifest Needs Questionnaire (Steers and Braunstein, 1976). This instrument uses a behaviorally-based method to elicit subject responses concerning the strength of the achievement motive. Following the work of Murray (1938), it is argued that behavior is motivated largely by the extent to which various needs are manifest and that need manifestation is best measured through recorded behaviors instead of affective responses. By using a behaviorally-based response format, it was hoped that more accurate measures would be secured concerning what subjects actually did (i.e., which needs were actively pursued) instead of how they felt about what they did. Sample items for the a Ach scale include the following: "I do my best work when my job assignments are fairly difficult" and "I try to perform better than my co-workers". Responses are recorded on 7-point Likert scales, ranging from "always" to "never".

Validation and reliability studies on the MNQ are reviewed in Steers and Braunstein (1976). These studies indicate acceptable test-retest reliability for the n Ach scale (.72). Moreover, cross-validated evidence of convergent, discriminant and predictive validity was found on the NNQ when compared against a variety of independently measured criteria. For instance, n Ach as measured by the MNQ correlated at  $\underline{r} = .58$  and  $\underline{r} = .55$  with independent achievement behavior ratings by judges in two separate samples. In addition, MNQ n Ach was able to accurately predict individual preferences for task structuring, reward systems, and control over one's job. MNQ n Ach was also found to relate to a

variety of job attitudes (e.g., job involvement, career satisfaction) in a manner consistent with theory. Discriminant validity coefficients comparing n Ach to other needs averaged  $\underline{r} = .18$ . These findings, when taken together compare favorably with other n Ach measures and provide support for the adequacy of the MNQ for measuring n Ach in work settings. The mean n Ach score for the present sample was 4.54 (S.D. = .86).

Organizational commitment. Commitment was measured using an instrument developed by Porter (Porter et al., 1974). Each item asks the subject to express his or her agreement or disagreement with the item on a 7-point Likert scale. Sample items include: "I am willing to put in great deal of effort beyond that normally expected in order to help this organization be successful" and "This organization really inspires the very best in me in the way of job performance." A mean score is calculated across the 15 items and used as a general measure of a subject's commitment to the employing organization. Internal consistency on this instrument was .90 (coefficient alpha). The mean commitment score for the present sample was 5.37 (S.D. = 1.05).

Performance. Job performance was measured by asking immediate supervisors to rate subjects on a 5-point scale designed to assess overall performance relative to one's peers in the same job classification. By rating performance relative to one's peers, it was hoped that more accurate measures (less response bias) would be secured. This technique has been used successfully elsewhere (c.f., Steers, 1975b). The mean performance score for the present sample was 3.01 (S.D. = 1.43).

<u>Demographic</u>. In addition to the above measures, information was also collected from subjects concerning subject's age, education, and tenure in the organization.

### Data Collection

Questionnaires were administered on-site by a university researcher to groups of ten to fifteen subjects at a time. A brief description of the proposed investigation was given to each group. Subjects were informed that participation was voluntary and were assured of confidentiality of responses. From the initial sample of 115, usable questionnaire data were obtained from all subjects.

#### RESULTS

#### Initial Considerations

The data were first analyzed using Pearson Product Moment correlations for the entire sample. Initial concern focused on the potential spurious effects of demographic variables on the job scope-outcome relationships. As shown in Table 1, the magnitude of such intercorrelations was generally low, indicating an absence of spurious relationships. In addition, it was found that n Ach was not significantly related to performance  $(\underline{r} = .13, n.s.)$  or job scope (median  $\underline{r} = .13, n.s.$ ), although it was related to commitment  $(\underline{r} = .25, p < .01)$ . Evidence of linear independence between job scope and performance also emerged (median  $\underline{r} = .09, n.s.$ ). Median  $\underline{r}$ 's were calculated using absolute  $\underline{r}$ 's.

# Insert Table 1 about here

The relationships between the various job characteristics and commitment and performance are shown in Table 2. Before need strength variations were considered, these data show that increases in job scope were positively related to increased organizational commitment. Partialling out the effects of n Ach changed this pattern of relationships only marginally.

Similar findings have been found between job scope and other job attitudes (e.g., Hackman and Lawler, 1971). A note of caution is in order for all such studies, however, because both perceptual measures of job scope and attitudes were secured from the same source. On the other hand, no significant relationship emerged between job scope and performance before considering n Ach. Partial correlations between job scope and performance holding n Ach constant were also computed for purposes of comparison with commitment. No significant relationships emerged. This finding is consistent with the results of Umstot et al. (1976) and Steers (1975b).

Insert Table 2 about here

## Moderated Regression Analyses

In view of the lack of a direct job scope-job performance relationship, consideration was next given to the potential moderating effects of need for achievement on such a relationship. This relationship was examined using both the moderated regression technique (Saunders, 1956; Zedeck, 1971) and subgroup analyses. For purposes of analysis using moderated regression, a summary job scope measure was calculated using the weighting procedures on the four core dimensions suggested by Turner and Lawrence (1965) and Hackman and Lawler (1971).

Results of the moderated regression are shown in Table 3. As shown in the Table, n Achievement was found to moderate the job scope-performance relationships at the .10 level of significance. For purposes of comparison, the potential moderating effects of n Ach on job scope and commitment were examined. As indicated in Table 3, no moderating effects were found.

# Insert Table 3 about here

Hence, some support emerged for the hypothesis that n Ach does have an influence on the job scope-performance relationship but not on the job scope-commitment relationship.

## Subgroup Analyses

Next, the data were analyzed using subgroup analyses. It was felt that this technique was justified in view of the linear independence between the hypothesized moderator, the prediction variable, and the criterion variable. The entire sample was split at the median based on need strength scores, and separate correlations were run for high and low n Ach groups between job scope and performance (Commitment was not included in these analyses in view of the above findings). The results are shown in Table 4. For high n Ach subjects, five of the six job chatacteristics were significantly related to performance. No such findings emerged for low n Ach subjects. Furthermore, all but one of the high need strength correlations were significantly higher than the corresponding correlations for low need strength subjects. These findings can be intrepreted as supporting the hypothesis that high need achievers respond more positively in terms of performance to enriched jobs than low need achievers.

Insert Table 4 about here

#### DISCUSSION-

This study sought to examine the influence of job scope and need for achievement on employee commitment and performance. The results suggest two general conclusions. First, increases in job scope were found to be associated

with organizational commitment (but not performance) before n Achievement level was considered. Second, increases in job scope were associated with increased job performance forhigh n Ach employees, but not for low n Ach ones.

The first conclusion, concerning organizational commitment, is consistent with earlier studies showing a direct influence of job design on job attitudes (Brief and Aldag, 1975; Hackman and Lawler, 1971; Steers, 1976). While organizational commitment has been shown to be conceptually and empirically distinct from other attitudes (Koch and Steers, 1976; Porter et al., 1974), current theory and research on the topic would predict a direct relationship with job scope instead of a moderated one (Steers, in press). This association follows from March and Simon's (1958) early work on exchange processes in individual-organizational relations. To the extent that an organization provides individuals with more challenging, interesting jobs, employees respond by developing increased attachments to the organization. Such a conclusion suggests that, indirectly, enriched jobs may have the effect of contributing to reduced turnover and absenteeism since, as noted above, commitment has been shown to be strongly and inversely related to such behavior. Hence, changes in job design do appear to have very practical consequences for the management of organizations.

The findings concerning job performance are also consistent with theory and previous research on the need for achievement (Atkinson, 1958; McClelland et al., 1953; Steers, 1975b). Enriched jobs serve to cue the achievement motive for high n Ach employees, leading to greater effort and performance. Since high performance is not motive-relevant for low need achievers, enriched jobs would be expected to have little impact. Such a finding has clear implications for management in suggesting one strategy for improving the performance

of at least one segment of employees (i.e., high need achievers). For low need achievers, on the other hand, alternative motivational strategies may be more appropriate than job enrichment, such as the use of peer groups pressure, more effective leader behavior, or stronger performance-reward contingencies and reinforcements. It is interesting to note in this regard that most successful field studies of reinforcement theory, or behavior modification, have been carried out among work samples that are typically characterized by low needs for achievement (Hamner and Hamner, 1976).

In conclusion, then, increasing the job scope of employee's work activities by providing greater amounts of variety, autonomy, feedback, and so forth, should serve to enhance employee commitment for most employees and employee performance for some. The strength of the present findings concerning the n Ach construct provides support for the utility of the construct in future research on the job scope-performance relationship. Such a conclusion concerning need for achievement is not intended to denegrate the "higher-order need strength" concept. Instead it is meant only to suggest an alternative and to demonstrate how this alternative holds up under empirical investigation. In view of the study results, it appears that the n Ach construct warrants further consideration as an important individual difference variable in future investigations of employee motivation and work behavior.

#### Footnote

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Table 1 Correlations Between Demographic and Major Study Variables

Major Study Variables	Age	Education	Tenure
Job Characteristics			
Variety	.02	.17	07
Autonomy	.12	.08	.08
Task identity	.01	11	.07
Feedback	04	.03	02
Optional interaction	17	.04	09
Required interaction	.06	14	.17
Performance	31	.13	12
Organizational Commitment	.20	20	.06
n Achievement	09	10	.03

N = 115

p < .05 at  $\underline{r}$  = .19 (two-tailed test) p < .01 at  $\underline{r}$  = .24 (two-tailed test)

Table 2 Correlations Between Job Scope and Commitment and Performance

Job Characteristics	Organizational Commitment		Job Performance	
	Simple r	Partial r	Simple r	Partial r
Variety	.15	.00	07	02
Autonomy	.32**	.25**	.11	.14
Task identity	.25**	.25**	.17	.18
Feedback	.39**	.27**	.09	.16
Optional interaction	05	02	.18	.17
Required interaction	.23*	.12	.02	.07

N = 115

Note: Partial correlations were computed between job characteristics and outcome variables holding n Ach constant.

<sup>\*</sup> Significant at the .05 level (two-tailed test)
\*\* Significant at the .01 level (two-tailed test)

Table 3

Results of Moderated Regression for Job Scope,
Outcome Variables, and Need for Achievement

Outcome	Zero-Order Correlation	Multiple Correla	Significance	
Variables	with job scope	Rlinear	Rmoderated	of increase (R <sub>m</sub> -R <sub>1</sub> )
Performance	11	.22	.26	1.68*
Commitment	.42	.47	.47	.00

N = 115

<sup>\*</sup> t-value significant at .10 level.

Table 4

Effects of n Achievement on
Job Scope-Performance Relationship

Job Characteristics	Job Performance		
Job Gnaracteristics	High n Ach	Low n Ach	
Variety	. 20 <sup>b</sup>	33	
Autonomy	.34 <sup>b</sup>	08	
Task identity	.28ª	.09	
Feedback	.22ª	02	
Optional interaction	. 36 <sup>b</sup>	.02	
Required interaction	.01	.03	

N's for high and low n Achievement are 60 and 55, respectively.

Note: A correlation coefficient greater than r = .21 is significantly different from zero at the .05 level.

- a. High and low need strength correlations are significantly different from each other at the .10 level.
- b. High and low need strength correlations are significantly different from each other at the .05 level.